

# **Section 1.0**

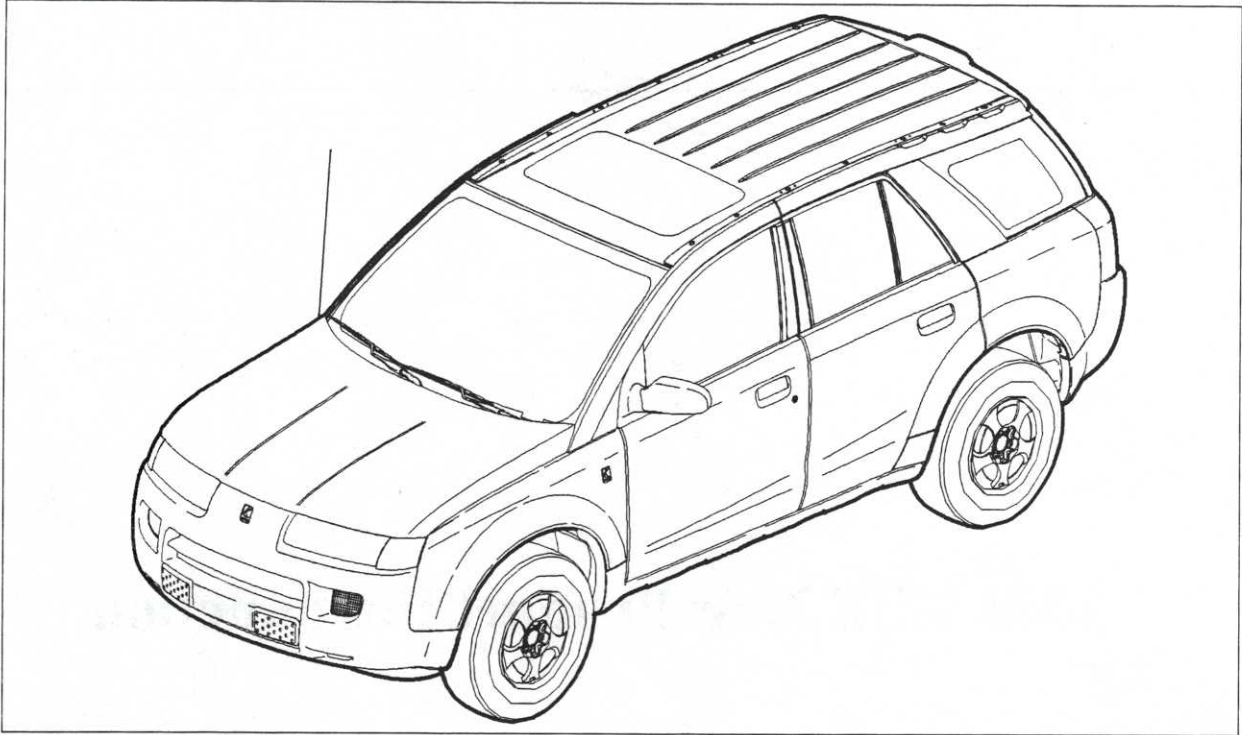
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## **2004 VUE New Product Introduction**

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## **2004 VUE New Product Participant Guide**

**Saturn VUE**



SMBSF94121AA

**Course Overview**

This course is intended to familiarize Retailer Technicians with the 2004 VUE. Areas covered will include engine, transaxle, MJ8 transfer case, and RDM updates.

**Course Prerequisites**

All technicians enrolled in the 2004 VUE New Product training are expected to have been fully trained (STT modules 1 through 3, or STIT, LS, SET, 2002 VUE and ION New Product training). This course builds on concepts students have been trained on in previous courses.

**Course Objectives**

At the end of the program, the technician will:

- Understand what's new about the 2004 VUE.
- Be able to compare the 2004 VUE to current Saturn products.
- Be able to refer to the Saturn service manuals to obtain the service information required.



## Course Structure

### **WEDNESDAY**

#### **1.0 Introduction to the 2004 VUE New Product Training Program**

- Training Center/Participant Introduction
- Course Overview
- Course Prerequisites
- Course Objectives
- Course Structure
- Pretest

#### **1.1 New Features**

- Entertainment
- Controller Locations
- Acronym List

#### **Vehicle Drive**

#### **2.0 Intro to 3.5L V-6 Engine**

- Section Structure

#### **2.1 L66 Technical Overview**

- Engine Overview
- Engine Specifications
- Engine Features

#### **2.2 L66 Air Induction/Fuel Injection Systems**

- Air Induction Components
- Fuel Injection Components
- Worksheet

#### **2.3 L66 Cylinder Head and Components**

- Timing Components

*Lunch (60 minutes)*

#### **2.3 L66 Cylinder Head and Components (Cont.)**

- Cylinder Head Components

#### **2.4 L66 Lubrication System**

- Components
- Worksheet



**WEDNESDAY (cont.)****2.5 L66 Engine Block and Components**

- Components

**2.6 L66 Engine Assembly**

- Engine Assembly Worksheet

**THURSDAY****2.6 L66 Engine Assembly (Cont.)**

- Valve Adjustment
- VVT Aircheck Procedure
- VVT Tech 2 Command Demonstration
- VVT Failure Modes Worksheet

**2.7 L66 Engine Diagnostics**

- Engine Control System Differences/  
Similarities from current vehicles
- Wet Fuel System Overview

**3.0 Transaxle Introduction**

- Section Structure

**3.1 Overview**

- Transaxle Identification

**3.2 Disassemble**

*Lunch (60 minutes)*





**Course Structure (Cont'd)****THURSDAY (cont.)****3.3 Components**

- Transaxle Housing
- Torque Converter Housing
- Regulator, Accumulator, and Shift Fork Control Body
- Accumulator Body Assembly
- Shift Assembly & Filter
- Mainshaft Components
- 1<sup>st</sup> and 2<sup>nd</sup> Clutch Shaft Components
- 3<sup>rd</sup> Clutch Shaft
- Output Shaft & Reverse Idler Components
- Front Differential & Transfer Gear Assemblies

**3.4 Powerflow**

- Park
- Reverse
- Neutral
- 1<sup>st</sup> Gear
- 2<sup>nd</sup> Gear
- 3<sup>rd</sup> Gear
- 4<sup>th</sup> Gear
- 5<sup>th</sup> Gear

**3.5 Assembly****FRIDAY****3.6 Controls**

- Electronic Control System
- Shift & Pressure Control Solenoids



**Course Structure (Cont'd)**

*FRIDAY (cont.)*

**3.7 Diagnosis**

- Transaxle Fluid Level Checking Procedure
- Line Pressure Checking Procedure
- Road Test Procedures
- Condition / Action Charts
- Scan Tool Data
- Failsafe Mode

**3.8 Review**

**4.0 Introduction to MJ8 Transfer Case**

- Section Structure

**4.1 Components & Service**

- Overview
- Disassembly
- Serviceable Components
- Diagnosis
- Assembly

**5.0 Introduction to Rear Drive Module (RDM)**

- Section Structure

**5.1 RDM Components**

- Introduction
- Overview
- Labels
- Clutch Pack/Pump
- Filter
- Sealer
- Fluid Fill
- Mounts

**6.0 ION Redline**

*Lunch (60 minutes)*

**Game Show Pro**

**Post Test**

**Survey**



# **Section 1.1**

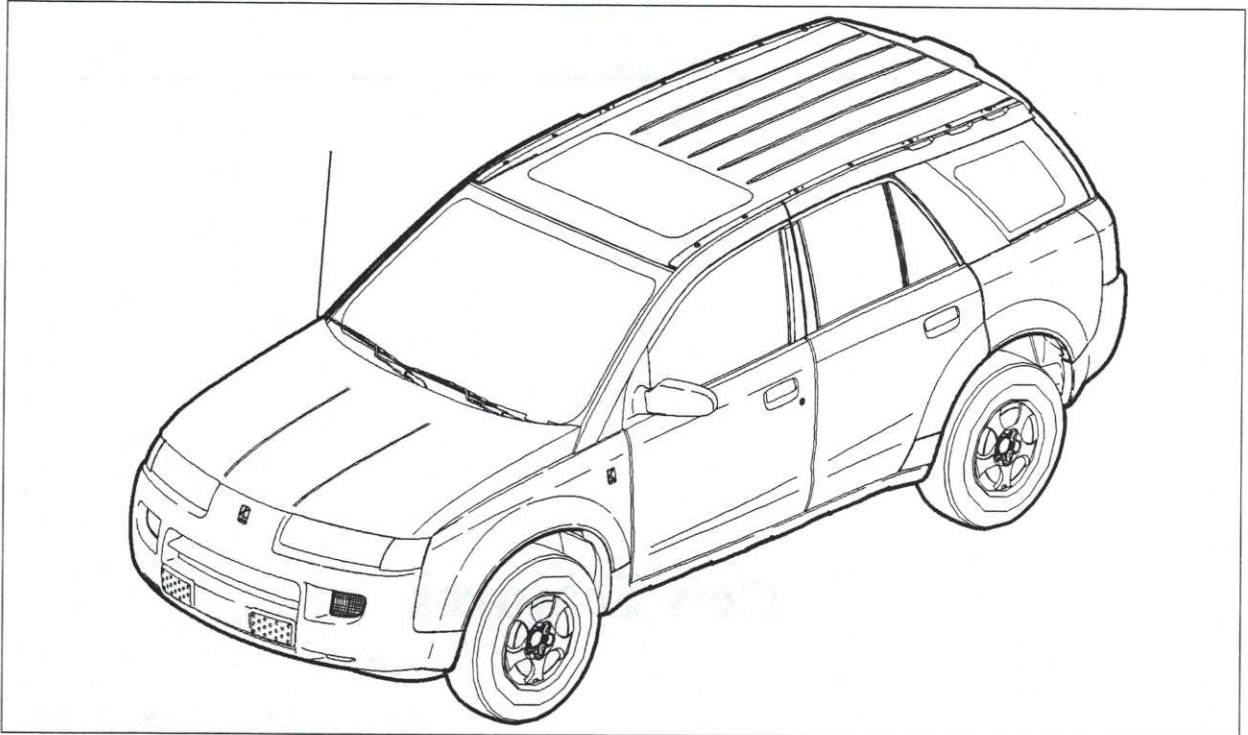
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## **New Features**

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### **2004 VUE New Product Participant Guide**

## Saturn VUE



SMBSF94121AA

## **New Features**

The 2004 VUE has the following new features:

- 3.5L V-6 engine (Section 2)
- MJ7/MJ8 automatic transaxle (Section 3)
- MJ8 transfer case (Section 4)
- RDM (Section 5)
- XM radio (next page)
- DVD player
- Larger wheels and tires (17")
- Updated instrument panel (white background)
- Updated steering wheel
- Top post Battery
- Painted door handles
- Saturn emblem on rear is chrome coated
- Dual stage air bags
- Front seat belt pretensioners
- Larger fuel tank (16.5 gallons)
- Heated leather seats (first became available in 2003)

**Red Line VUE**



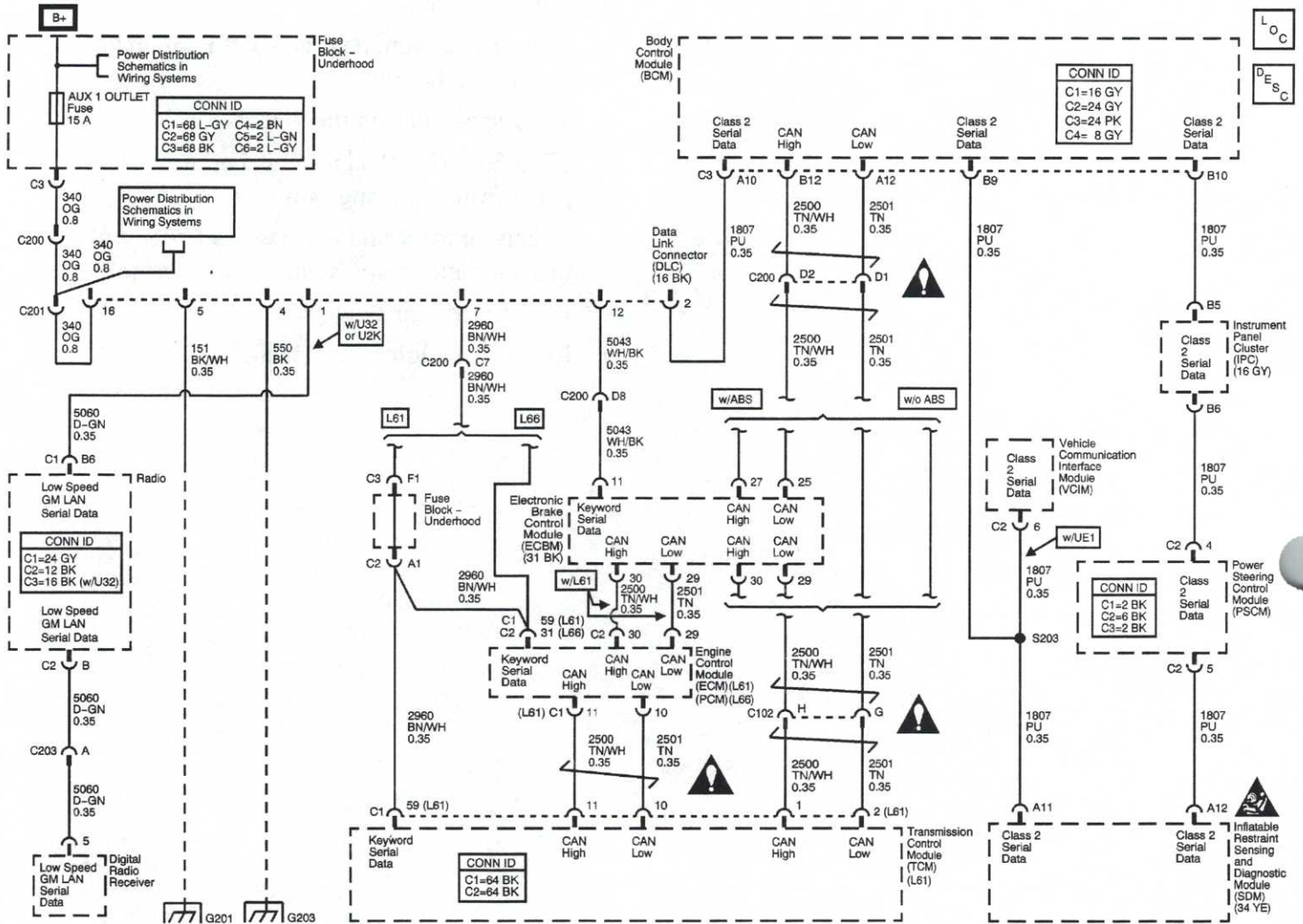


## **New Features (Cont'd)**

Red Line VUE will have the following exclusive features:

- Chrome tip exhaust
- Ground effects
- Performance tuned springs with 26mm (1") lower curb height
- 18" 7 spoke aluminum wheels
- P245/50 series Bridgestone Turanza performance touring tires
- Exclusive front and rear fascias (front with black air intake and stainless steel grille)
- Dark tinted rear door glass
- Red Line badging on liftgate

## Data Link Connector



## Entertainment

2004 VUE has a digital radio receiver, for XM radio, along with the traditional radio.

- XM radio receives its signal from satellites covering the continental United States.
- XM radio allows for the continuous play of one radio station from coast to coast.
- Digital signals can be received under bridges and through short tunnels because of ground based Terrestrial Repeaters.
  - Terrestrial Repeaters receive satellite signals, boost them and send them out over land.
- There is a subscription fee for XM radio.
- XM radio will only operate with uplevel audio systems.

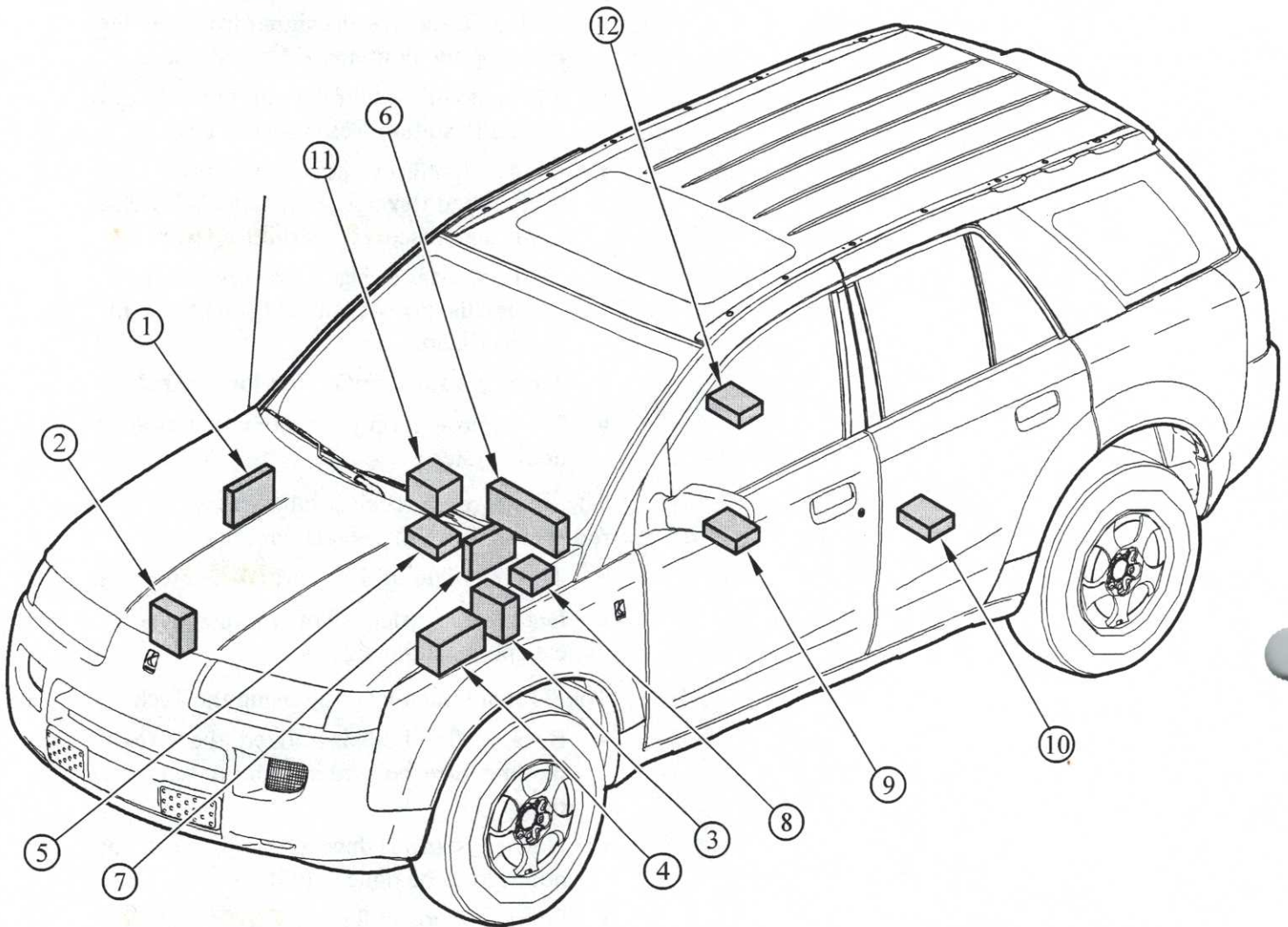
The digital radio receiver interacts with the radio head through a single data line.

- This data line utilizes GM LAN low speed.
- Data line transfers all operational data except for audio signals.

The 04 radio must be setup using the Tech 2.

- Because GM LAN is utilized, the CANDi module must be used in order to setup the radio.
- New car setup is done at the plant and does not need to be done at PDI.
- Service radios will read, "CALIBRATE" on the screen until programmed to the vehicle.
- Using TECH 2 special functions under the "Body Menu," you setup the radio identifying the vehicle.
- If a radio is swapped to a different vehicle and not setup for the new vehicle it will operate but:
  - Sound will not be correctly equalized to the vehicle and volume control will not work properly.

### VUE Controller Locations



## Controller Locations

1. PCM: Powertrain Control Module (V-6)
2. ECM: Engine Control Module (4-Cyl)
3. TCM: Transaxle Control Module (4-Cyl)
4. EBCM: Electronic Brake Control Module
5. BCM: Body Control Module
6. IPC: Instrument Panel Cluster
7. VCIM: Vehicle Communication Interface Module
8. PSCM: Power Steering Control Module
9. SDM: Sensing and Diagnostic Module
10. Digital Radio Receiver
11. Radio
12. Amplifier



## Acronym List

**A/F – Air/Fuel**

**A/T – Automatic Transaxle**

**AWD – All Wheel Drive**

**CKP – Crankshaft Position Sensor**

**CMP – Camshaft Position Sensor**

**CPC – Clutch Pressure Control**

**DTC – Diagnostic Trouble Code**

**EGR – Exhaust Gas Recirculation**

**FWD – Front Wheel Drive**

**IAT – Intake Air Temperature**

**MAF – Mass Air Flow**

**MAP – Manifold Air Pressure**

**NVG – New Venture Gear**

**PCV – Positive Crankcase Ventilation**

**PSCM – Power Steering Control Module**

**PTU – Power Takeoff Unit**

**PWM – Pulse Width Modulated**

**RDM – Rear Drive Module**

**SOHC – Single Overhead Cam**

**TAC – Throttle Actuator Control**

**TDC – Top Dead Center**

**VVT – Variable Valve Timing**

**XM – Radio to the x<sup>th</sup> power**





| Component              | S-Series   | L-Series   | VUE  | ION   |
|------------------------|--|--|--|---|
| VTi                    | N/A  | N/A  | VT25-E (M16,M75)<br>DEX-CVT Fluid:<br>22688912 (Color: Green)<br><br>DEX-CVT Additive:<br>22697447 (Color: Clear)        | VT25-E (M16,M75)<br>DEX-CVT Fluid:<br>22688912 (Color: Green)<br><br>DEX-CVT Additive:<br>22697447 (Color: Clear) |
| Auto Transaxle 4 Cyl   | MP6/MP7<br>Service: 21005856<br>(Color: Red)                     | 4T40 (MN4)<br>Service: 21019223<br>(Color: Red)                        | N/A  | AF23-5 (M43)<br>Saturn T-IV: 22689186<br>(Color: Red)   |
| Auto Transaxle 6 Cyl   | N/A  | 4T45 (MN5)<br>Service: 21019223<br>(Color: Red)                        | AF33-5 (M45, M09)<br>Saturn T-IV: 22689186<br>(Color: Red)<br><br>SAT (MJ7, MJ8)<br>GM ATF Z-1: 22717466<br>(Color: Red) | N/A   |
| Manual Transaxle 4 Cyl | MP2/MP3<br>Service: 21005856<br>(Color: Red)                     | F25 (M79, MU3)<br>Service: 21018899<br>(Color: Red)                    | F23 (MG3)<br>Service: 21019223<br>(Color: Red)   | F23 (M86)<br>Service: 21019223<br>(Color: Red)  |
| Engine 4 Cyl           | 1.9L 4 Cyl<br>Service (5W-30):<br>21007582 (qt)<br>21007414 (qt) | 2.2L 4 Cyl (L61)<br>Service (5W-30):<br>21007582 (qt)<br>21007414 (qt) | 2.2L 4 Cyl (L61)<br>Service (5W-30):<br>21007414 (qt)  | 2.2L 4 Cyl (L61)<br>Service (5W-30):<br>21007414 (qt)   |
| Engine 6Cyl            | N/A  | 3.0L 6 Cyl (L81)<br>Service (5W-30):<br>21007582 (qt)<br>21007414 (qt) | 3.0L 6 Cyl (L81)<br>Service (5W-30):<br>21007414 (qt)<br><br>3.5L 6 Cyl (L66)<br>Service (5W-20):<br>22717465 (qt)       | N/A   |
| PTU                    | N/A  | N/A  | M16, M45<br>Versatrack Fluid:<br>12378514 (0.5 L)<br><br>MJ8<br>Service (75W-90)<br>12378261 (qt)                        | N/A   |
| RDM                    | N/A  | N/A  | M16, M45, MJ8<br>Versatrack Fluid:<br>12378514 (0.5 L)   | N/A   |

*[The content of this table is extremely faint and illegible due to low contrast and scan quality. It appears to be a large table with multiple columns and rows, possibly detailing new features or product specifications.]*